The California “Youthquake”

PREFACE

A teenage "youthquake" of proportions not seen since the baby boom rippled across California. The leading edge of a one-third increase in the teen population reaches driving age this year. The reasons behind this demographic surge include:

- The Baby Boom echo — more than half the increase is attributable to children born to the Baby Boom generation, many of whom delayed child-bearing. These children — born between 1980 to 1993 — are often referred to as "Generation Y."
- High levels of immigration by predominantly young families.
- High birth rates among African-Americans, Hispanics and other minorities.

California subsequently faces a huge increase in teenagers, both in absolute numbers and as a proportion of the overall population. There will be 764,994 more teens, 15-19 years of age, in the year 2007, an increase of thirty-three percent (Department of Finance Projections). By that time California will have a higher proportion of teenagers than at any time since the 1980s.

Teenagers are disproportionately at risk in many of society's problem areas — including crime, gangs, drug use and teen pregnancy. The fact that California's teen population is rapidly increasing — both in absolute numbers and as a percentage of the overall population — portends serious consequences.

One particular area of concern is traffic safety. Nationwide, motor vehicle collisions are the leading cause of deaths for 15 - 20 year olds (32 percent), and teen drivers are responsible for a highly disproportionate number of motor vehicle collisions, injuries and deaths. In 1995, although teens comprised only 6.3 percent of California's population, they were involved in 12.5 percent of all fatal and injury motor vehicle collisions.

Teen drivers are also more likely to be at fault in a collision. Nationally, 16 year olds have the highest rate of involvement in fatal crashes per mile driven. In California, 16 year olds are at fault 66 percent of the time. This high risk status results from a mix of inexperience and immaturity. Combining these characteristics with alcohol use creates a particularly deadly mix.

In 1997 the leading edge of Generation Y reached the 15-16 year old driving age. For the next ten years an ever increasing proportion of Generation Y will be of driving age, swelling the ranks of teen motorists on California highways. The prospect looms of large increases in collisions, injuries and fatalities. Many of these teens will be ethnic minorities — presenting language and cultural barriers to communication — and many will be from high-risk urban populations.

Motor vehicle collisions have been carefully tracked and studied in California for many years. The California Office of Traffic Safety commissioned an independent researcher

to apply demographic projections of teenage population increases against historical traffic statistics to obtain a picture of the potential impact upon the safety of California roadways. Key findings of this study include:

- California's teen population, 15-19 years of age, will increase 33.5% in the next ten years.
- By 2007, 15-17 year olds will cause 24 percent more motor vehicle-related deaths and injuries because they will choose to drink and drive.
- The total cost to California society for motor vehicle-related deaths and injuries within Generation Y will rise from $2.3 billion in 1997 to more than $14.3 billion in 2007. The total cost for alcohol-related crashes will rise from $402.7 million in 1997 to $2.8 billion in 2007.

Forewarned is forearmed. Steps have been underway to anticipate this alarming trend and reduce its impact. Nonetheless, it will remain one of the most serious challenges facing California communities, law enforcement and public policy makers in the years ahead.

Arthur Anderson, Director
California Office of Traffic Safety

SUMMARY REPORT

THE IMPACT OF "GENERATION Y" ON MOTOR VEHICLE-INVOLVED FATALITIES AND INJURIES IN CALIFORNIA

INTRODUCTION

In May 1997, the California Office of Traffic Safety retained Dennis H. Tootelian, Ph.D. to conduct an independent study to assess the impact of the growth in the 3 through 17 year old population ("Generation Y") on the number of fatalities and injuries involving motor vehicles in California. Dr. Tootelian is a Professor of Marketing and Director of the Center for Small Business at California State University. He has conducted several economic impact studies that involved motor vehicles in the past, and a copy of his condensed resume is contained in APPENDIX A.

The purpose of this analysis was to project the impact in the growth in the Generation Y population, which has become one of the fastest growing segments of the United States population. Specific issues under consideration were:

1. The projected growth in the population that are between the ages of 3 and 17.
2. The projected number of fatalities and injuries among this population which involve motor vehicles, and those where alcohol was a possible factor.
3. The costs associated with the fatalities and injuries among this population which involve motor vehicles.

BACKGROUND TO THE STUDY

The "Generation Y" population has been loosely defined by various sources as those who were born between the years 1980 and 1993. Based on data reported by the U.S. National Center for Health Statistics, the number of births between these years totaled nearly 53.9 million (see TABLE ONE)[1].

Compared to 1975 through 1979, births from 1980 through 1984 were 10.7% higher, and 17.0% higher from 1985 through 1989. It also has been reported that births began exceeding 4.0 million per year in 1989 for the first time since the early 1960s.[2]

Because of its size, the Generation Y population represents a significant entity that carries with it major societal implications. Their need for a wide range of goods and services from the public and private sectors of the U.S. economy is being clearly felt. Public schools are facing serious problems with overcrowding, and businesses are refocusing their efforts to target segments of this age group.

At the older end of the Generation Y population are those who have reached the age level for driving motor vehicles (i.e., 15 years of age or older). The potential implications of this are greater numbers of Generation Y drivers on U.S. streets and highways, and greater numbers of fatalities and injuries among this population which involve motor vehicles.

Issues of fatalities and injuries are a particularly important concern. Based on national statistics, in 1995 drivers between 15 to 20 years old accounted for 6.7% of the total number of drivers, but were involved in 14% of the fatal crashes and 17% of all police-reported crashes.[3]

In California, this age group comprised about 6.3% of the licensed drivers, but were involved in approximately 12.5% of the fatal and injury crashes in 1995. According to the National Highway Traffic Safety Administration, "Motor vehicle crashes are the leading cause of death for 15 to 20 year olds..." [4]

Furthermore, according to California Highway Patrol statistics, a higher percentage of younger drivers tend to be at fault for crashes than are older drivers.[5] For example, in 1995, 68.3% of 15 year old drivers involved in crashes were determined to be at fault, while 43.5% of those who were 27 years of age were at fault.

Therefore, as an increasing number of the Generation Y population move into the age range for driving motor vehicles, there should be growing concerns about the number of crashes and resulting fatalities and injuries. This study seeks to project what those numbers will be, and the costs associated with motor vehicle involved crashes.

[1] Statistical Abstract of the United States, 1995, U.S. Department of Commerce, Bureau of Census, p. 73.
[2] Beck, Melinda, "Next Population Bulge Shows Its Might," The Wall Street Journal, February 3, 1997, p. B-1.
[3] Traffic Safety Facts 1995, U.S. Dept. of Transportation, National Highway Traffic Safety Administration, p. 1.
[4] Ibid.

[5] Dept. of California Highway Patrol, "1995 Annual Report Of Fatal And Injury Motor Vehicle Traffic Collisions." 1995.

DATA SOURCES

Data for this analysis came primarily from reports published by the California Department of Finance Demographic Research Unit, California Highway Patrol, U.S. Department of Transportation National Highway Traffic Safety Administration, and a report prepared for the Federal Highway Administration by The Urban Institute.

It was considered important to limit the resource data to documented sources available to the public. Because not all of the data released by these sources are in precisely the same format, and some data for particular ages on a county-by-county basis was not available, some extrapolations were necessary. They are noted within the analysis.

FINDINGS

The results of this analysis are grouped into three sections corresponding to the specific objectives of the study. The first, Population Trends For Generation Y, focuses on projected numbers of Californians who will be between 3 and 17 over the next ten years (i.e., 1998 through 2007). The second, Projected Fatalities And Injuries Involving Motor Vehicles, addresses the issues of the numbers of fatalities and injuries to be expected among this age group with and without alcohol as a factor. The third section, Cost Projections For Fatalities And Injuries Involving Motor Vehicles, centers on the projected costs associated with fatalities and injuries among the Generation Y population.

It is important to note that annual population projections were made on a county-by-county basis and then aggregated to provide the totals. These projections were based in part on extrapolations using 1997 and 2002 statistics, and then adjusted to carry them forward for 2003 to 2007. In doing this, projections for individual counties are subject to some degree of error.

Population Trends For Generation Y

Presented in TABLE TWO are the projections for the size of the Generation Y population by age for each of the next ten years. These statistics were extrapolated from data provided by the California Department of Finance Demographic Research Unit.

Projected Generation Y As Percent Of California Population. The Generation Y population will continue to account for over 21% of the California population as it moves over the next ten years from the age range of 3 through 17 to 13 through 27 (i.e., age 3 through 17 in 1997 becomes 4 through 18 in 1998). While this percentage declines slightly from 1997 through 2007 due to new birth rates and increased longevity, it still represents a major component of the California population.

Additionally, of the expected 6,635,446 increase in the total population from 1997 through 2007, 14.0% of those, or 929,914 people, will be the result of a net influx of

residents from other states and immigrants to the United States who settle in California who are part of the Generation Y population. Thus, by the year 2007, there will be nearly 8.8 million Generation Y people living in California, compared to 7.9 million in 1997.

Projected Number Of Generation Y Population At Least 15 Years Of Age. As the Generation Y population grows older, the percent which will be at least 15 years of age will rise from 4.0% of the California population to 18.2%. This is a result of the fact that while only 17.7% of the Generation Y population were at least 15 years of age in 1997, 85.4% will be in this age range by the year 2007.

Therefore, the number of people of driving age within the Generation Y population will increase by about 6.1 million by the year 2007. In 2007, 7.5 million Generation Y people will be of driving age, compared to 1.4 million in 1997. This represents a very substantial increase in the potential number of drivers within California.

Projections as to the actual number who will have licenses to drive also are shown in TABLE TWO. This number is expected to grow from 500,000 in 1997 to nearly 4.0 million by the year 2007. Generation Y drivers will represent about 16.3% of all licensed drivers in California in ten years.

Projected Number Of Generation Y Population By Geographic Region. Projections were made of the number of people in Generation Y by five geographic regions: Northern California, Bay Area, Central Valley, Los Angeles Region, and San Diego Region. These are shown in TABLE THREE, and include all of the counties in California.

It is important to note that there are slight differences between the totals for the counties and the statistics shown in TABLE ONE. These are the result of rounding the statistics.

Projected Fatalities And Injuries Involving Motor Vehicles

Presented in TABLE FOUR are the projected number of Generation Y drivers involved in crashes where fatalities or injuries are expected to occur. This number rises from 8,400 in 1997 to nearly 67,000 in 2007. These figures are the direct result of the increasing Generation Y population who will be of driving age.

Also shown in this table are the forecasted numbers of drivers who are expected to be at fault for crashes, and those who have been drinking. These projections are based on 1995 statistics for the incidence of drivers at fault by age, and the number who had been drinking alcohol irrespective of level of impairment.

The projected number who are at fault is expected to rise from just over 5,000 in 1997 to more than 34,000 in 2007. While the percentage of Generation Y drivers at fault will decline as this population becomes older, it still represents a significant percentage. The number of drivers who had been drinking alcohol, irrespective of level of impairment, is expected to rise from 384 in 1997 to nearly 3,000 by the year 2007.

Shown in TABLE FIVE are the projected numbers of Generation Y fatalities and

injuries involving motor vehicles. These forecasts were computed by using the percentages of the populations for each county in California who were killed and injured as a result of motor vehicle related crashes in 1995. It was believed that the percentages for the most recent year reported would be an appropriate base for making these calculations.

Projected Fatalities. As shown in TABLE FIVE, the Generation Y population of driving age (i.e., at least 15 years of age) are projected to account for 5.8% of the fatalities in 1997 (i.e., 15 to 17 years of age), and that percentage will grow to 25.6% of all fatalities by the year 2007 (i.e., 15 to 27 years of age). This is the direct result of the larger percentage of the Generation Y population which who will be of driving age.

Projected Injuries. The number of the Generation Y population which are projected to be injured in motor vehicle crashes from 1997 through 2007 also are presented in TABLE FIVE**.** It is expected that they will account for 7.6% of all injuries in 1997, and that percentage will grow to 34.4% by the year 2007. This also is the function of the growth numbers of the Generation Y population who will be of driving age.

These projections were based on the incidence of injuries among 15 to 19 year olds and 20 to 29 year olds in 1995. No direct data was available for the 15 to 17 year old age group, but it was believed that there would be little difference in the percentages of the total injuries which would occur between 15 and 17 and 18 and 19. If anything, it may be speculated that the younger group might have a higher incidence due to their inexperience in driving.

Likelihood Of Being Involved In A Motor Vehicle Crash. The likelihood of being involved in a motor vehicle crash also is shown in TABLE FIVE. These percentages were computed by calculating the likelihood of a member of the 15 or older Generation Y population being involved in a crash (i.e., number of 15+ Generation Y involved divided by the 15+ Generation Y population size), and dividing that by the overall likelihood of being involved in a crash (i.e., total number involved divided by the total population.)

Based on this, members of the Generation Y population are expected to be considerably more likely to be killed in crashes than are members of the general public. They also are much more likely to be injured. As shown in the last column of the first set of statistics in TABLE FIVE, those 15 or older who are in the Generation Y population are between 69.0% (1999) and 105.6% (2007) more likely to be either killed or injured than are people in the total population.

These analyses also were conducted for alcohol-related crashes. As shown, the 15 or older Generation Y population is more likely to be killed in a motor vehicle crash involving alcohol than is the general public. They also are more likely to be injured. Overall, they are between 48.1% (1999) and 80.0% (2007) more likely to be killed or injured in a motor vehicle crash involving alcohol than are members of the total population.

Projected Fatalities And Injuries By Geographic Region. The projected numbers of

fatalities and injuries by geographic region are shown in TABLE SIX. These include both total numbers and those where alcohol was involved.

Projected Costs Of Fatalities And Injuries Involving Motor Vehicles

Shown in TABLE SEVEN are projected costs associated with fatalities and injuries involving 15 or older members of the Generation Y population. These were computed by projecting the costs per fatality and injury based on The Urban Institute's statistics for 1993. These costs were identified as productivity losses, losses in household production, medical costs prior to death, premature funeral costs, emergency costs, insurance administration costs, legal and court costs, employer/workplace costs, and travel delay caused by fatal crashes.

Costs of injuries were identified by the U.S. Department of Transportation to be: wage loss (short term), disability over employment life span, household production, emergency services, medical, vocational rehabilitation, insurance administration, legal and court, workplace, and travel delay.

Total Projected Costs. The total projected costs are shown in TABLE SEVEN for all fatalities and those involving the 15 or older Generation Y population. As is evident, the total costs of fatalities involving this segment of the Generation Y population is expected to rise from $903.6 million in 1997 to more than $7.4 billion in 2007.

The costs of injuries to the 15 and older portion of the Generation Y population are projected to rise from nearly $1.4 billion in 1997 to more than $7.4 billion in 2007.

Therefore, it is expected that the total costs of fatalities and injuries to this segment of the population will be nearly $2.3 billion in 1997, and rise to over $14.3 billion in 2007.

Projected Costs Of Crashes Involving Alcohol. The projected costs of crashes involving alcohol among 15 and older members of the Generation Y population also are shown in TABLE SEVEN**.** The costs of fatalities are estimated to grow from $258.5 million in 1997 to $2.0 billion in 2007. Injury costs are expected to rise from $144.3 million in 1997 to $789.4 million in 2007.

Overall, the total fatality and injury costs to this segment of the population where alcohol was involved in a motor vehicle crash are projected to rise from $402.7 million in 1997 to more than $2.8 billion in 2007.

Projected Costs Of Crashes By Geographic Region. The projected total costs of fatalities and injuries by geographic region which involve 15 and older members of the Generation Y population are shown in TABLE EIGHT. The projected costs where alcohol was involved are shown in TABLE NINE.

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